

CDF/D0/AD Luminosity meeting

Introduction

July 13 2004
Vaia Papadimitriou

CDF/D0/AD Luminosity meeting

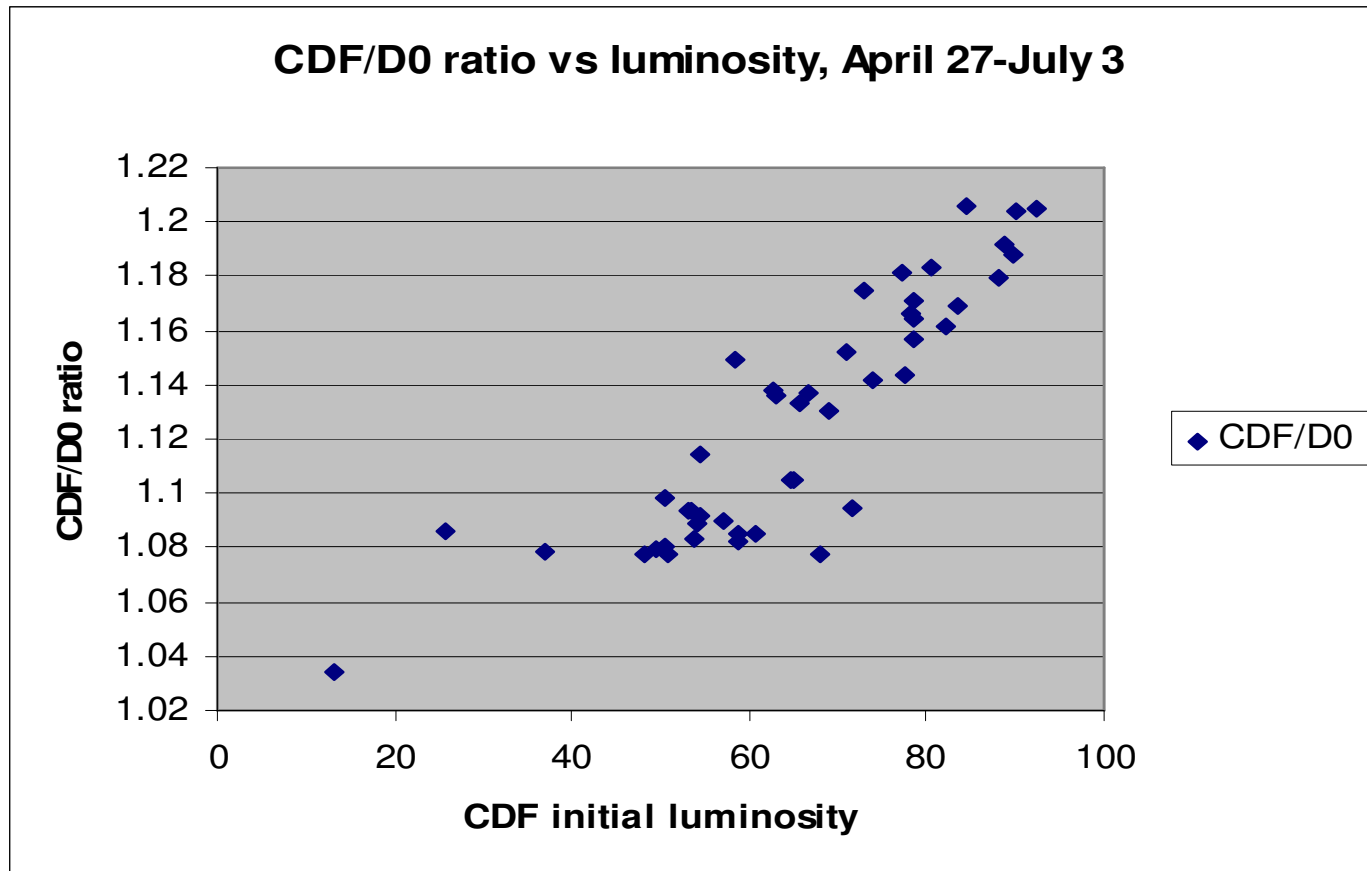
- ❖ Besides small working meetings which are being held regularly and informally among CDF, D0 and AD colleagues who work on understanding luminosity issues, we had four broader joint meetings so far which are being held approximately every two and a half months. Our last broader joint meeting took place on April 20, 2004.
- ❖ In the mean time several beam optics studies were completed, new low beta optics were introduced at the IRs, and the CDF and D0 experiments provided a lot of relevant information by studying the beam widths at the IRs, beam loss patterns, trigger and physics cross sections as a function of luminosity, etc.

New low beta optics

- ❖ New low beta optics were introduced in store 3487, May 12 2004
- ❖ Optics corrections were completed by introducing alpha bumps in store 3534, May 26 2004
- ❖ As a result luminosities increased at both IPs

CDF/D0 ratio vs luminosity

The ratio appears to depend on (and increase) with the luminosity



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The following talks by AD and by the CDF and D0 experiments will present a lot of relevant information and will hopefully shed light on this issue.

In pages 7-10 of this file I am including a few slides that were shown later during the meeting and which present a comparison of the calculated luminosities at low beta by AD vs the measured initial luminosities by CDF and D0, before and after the recent beam optics changes.

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Agenda

1) Introduction

Vaia Papadimitriou (5 minutes)

2) Beam optics changes -

What we know about the luminosity differences at CDF and D0

Vladimir Shiltsev (25 minutes)

3) Integrity of the D0 luminosity measurement

Brendan Casey (20 minutes)

4) D0 Beta* and alpha bump studies

Juan Estrada (20 minutes)

5) The CDF luminosity measurement

Roberto Rossin (20 minutes)

6) CDF Beta* measurements

Simon Sabik/William Trischuk (10 minutes)

7) CDF beam width measurements (online)

Chris Neu (10 minutes)

8) Comparing AD and IP luminosity measurements

Carl Bromberg (10 minutes)

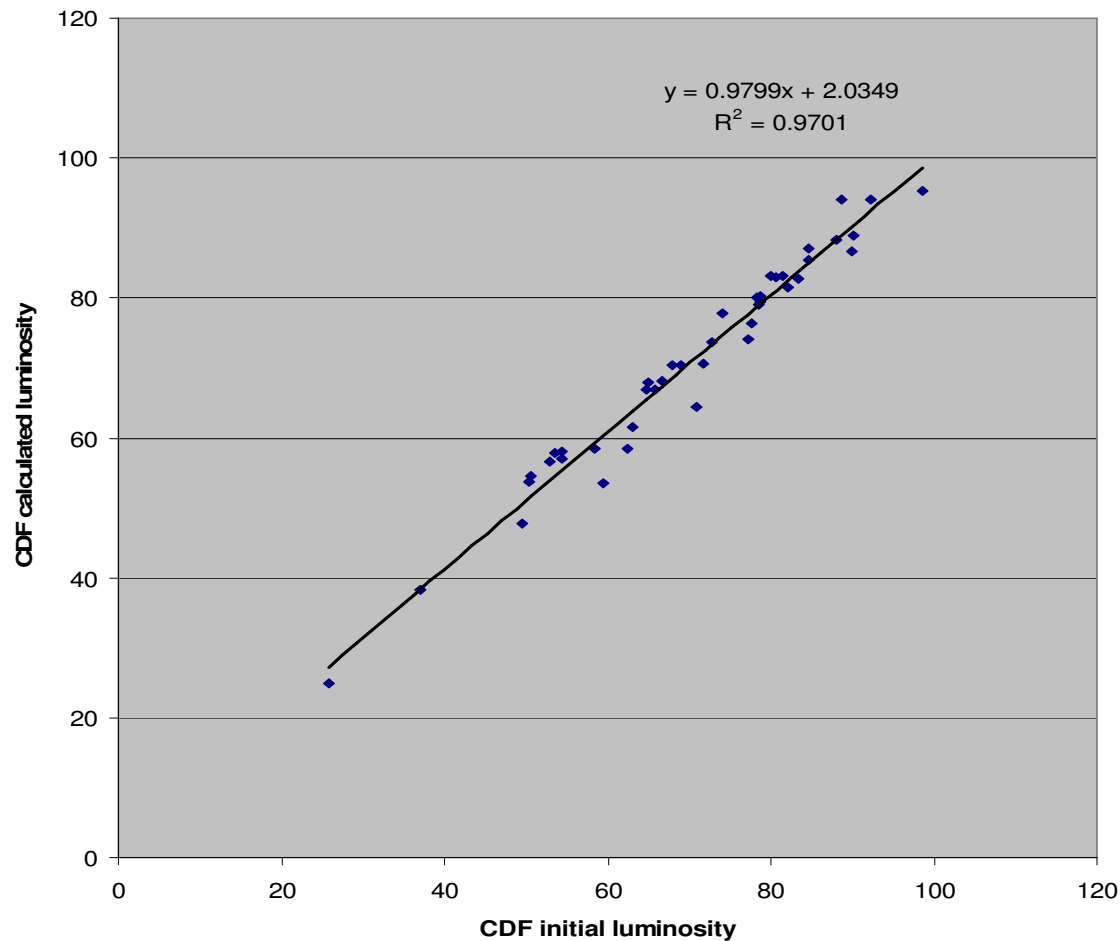
9) Luminosity plans for the Tevatron

Dave McGinnis (15 minutes)

10) Action items - All

CDF calculated vs initial luminosity after the beam optics change and till July 10

CDF calculated vs initial luminosity after store 3487

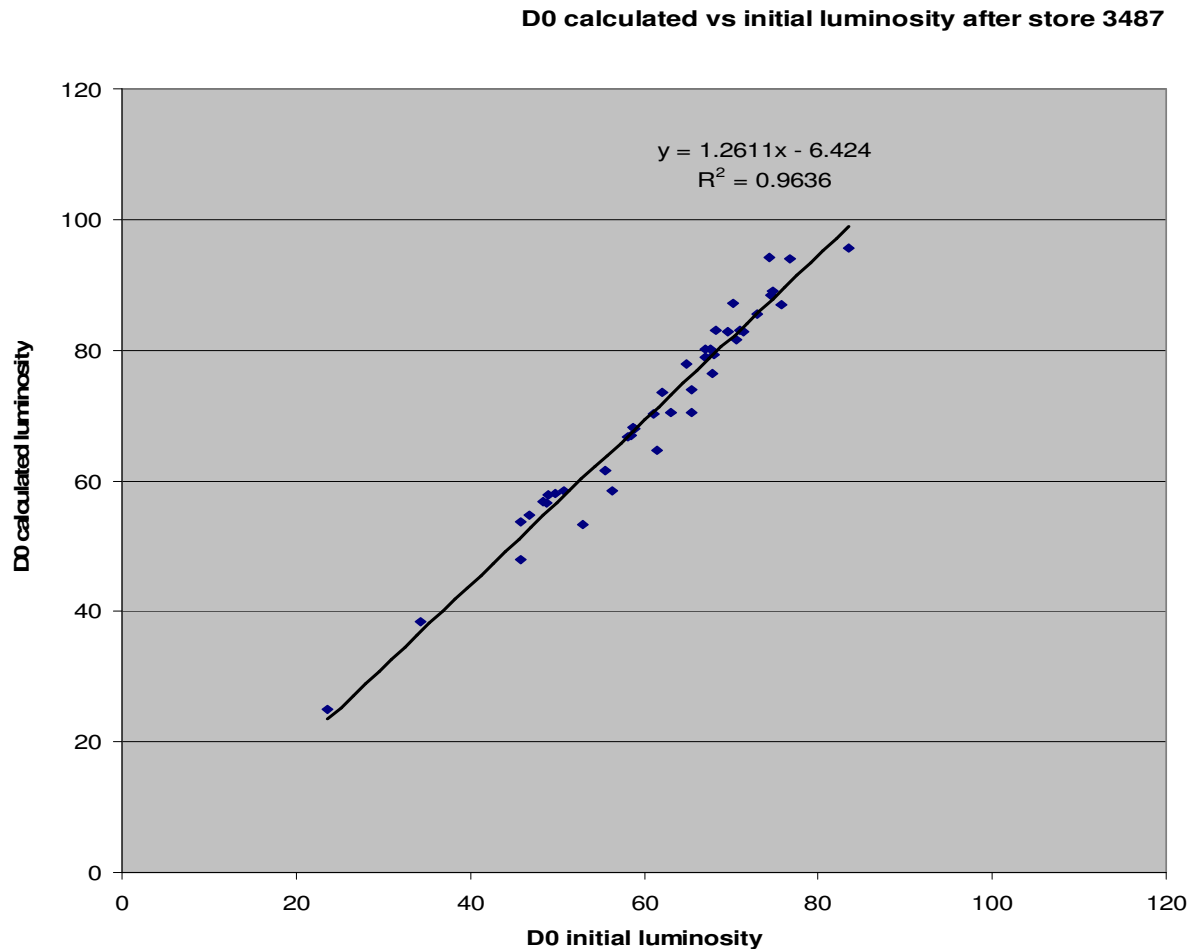


Store 3528
removed; bad CLC
cable for CDF

◆ 29 CDF luminosity calculated at low beta
— Linear (29 CDF luminosity calculated at low beta)

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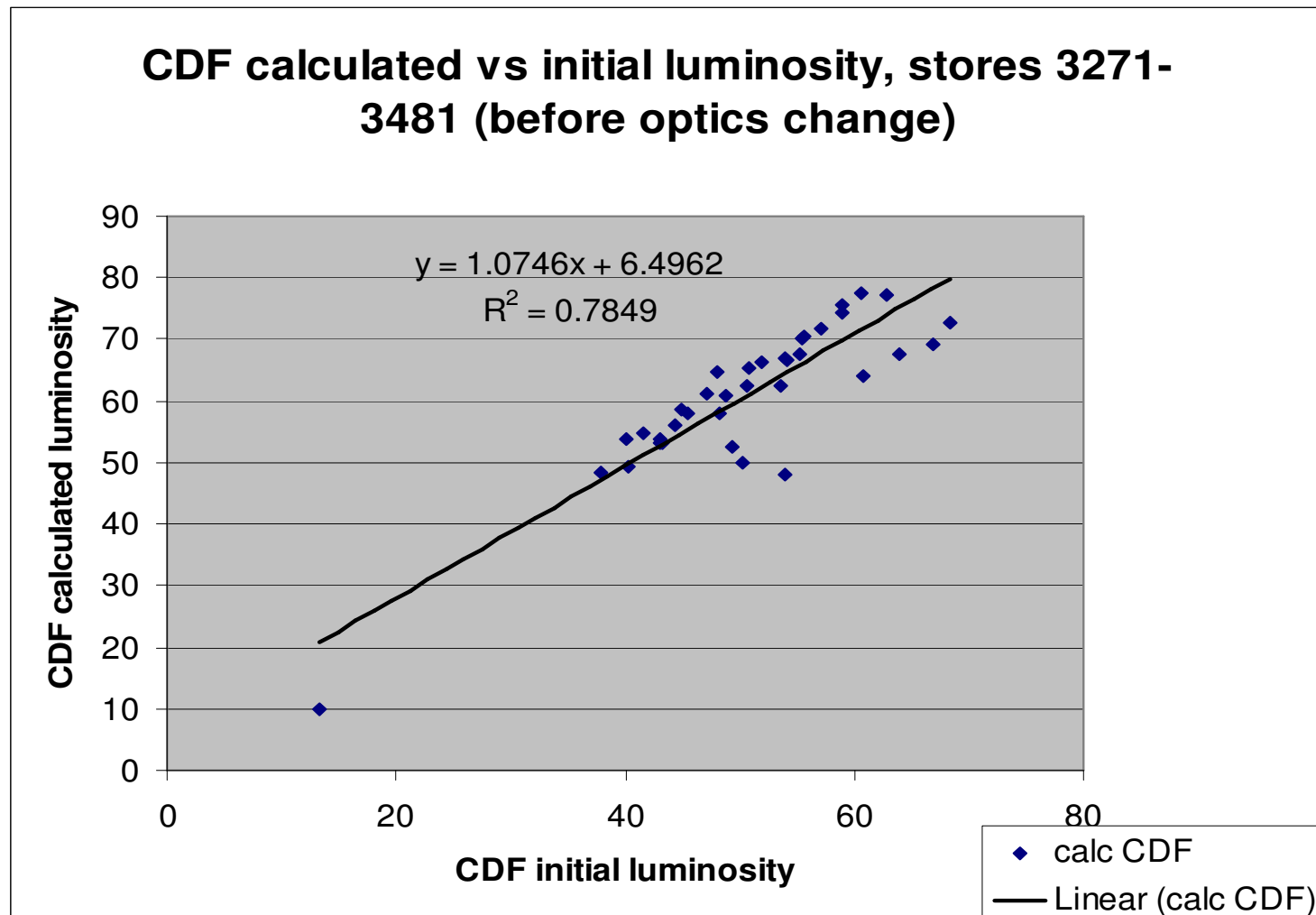
D0 calculated vs initial luminosity after the beam optics change and till July 10



Store 3528
removed; bad CLC
cable for CDF

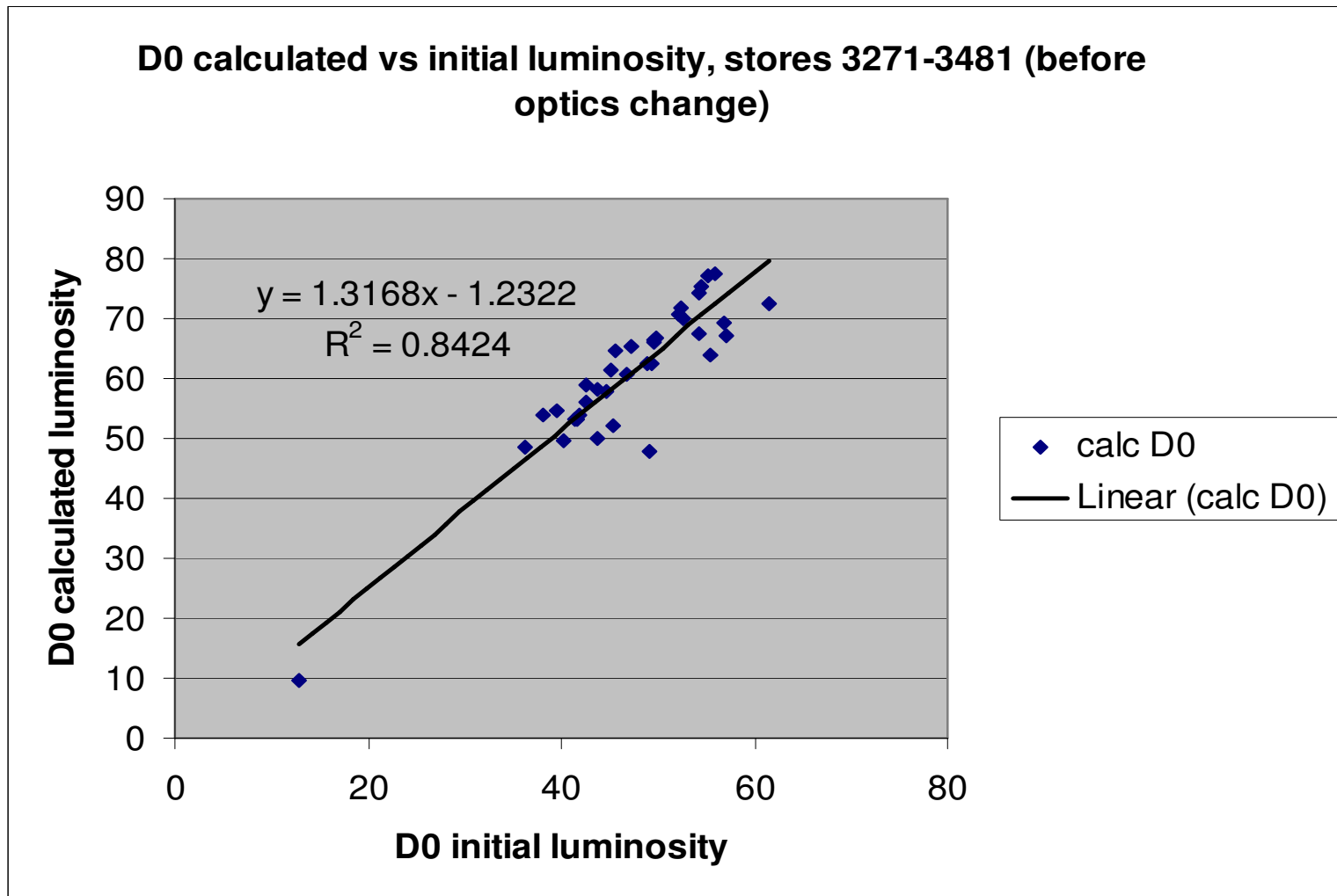
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CDF calculated vs initial luminosity before the beam optics change, March 1-May 10, 2004



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D0 calculated vs initial luminosity before the beam optics change, March 1-May 10, 2004



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